

Solve the triangles.

1. $A = 40^\circ$, $B = 30^\circ$, and $b = 10$

2. $a = 5$, $b = 9$, $c = 7$

3. $A = 55^\circ$, $b = 12$, $c = 7$

4. $A = 36^\circ$, $a = 2$, $b = 7$

5. $C = 36^\circ$, $a = 17$, $c = 16$

6. $A = 36^\circ$, $B = 48^\circ$, $c = 13.5$

Find the area with the given information.

7. $B = 42^\circ$, $c = 18$, $a = 10$

8. $a = 4$, $b = 5$, $c = 8$

9. Two meteorologists are 25 mi apart located on an east-west road. The meteorologist at Point A sights a tornado $N38^\circ E$. The meteorologist at point B sights the same tornado $N53^\circ W$. Find the distance from each meteorologist to the tornado.

10. Tony must find the distance from A to B on opposite sides of the lake. He locates a point C that is 860 ft from A and 175ft from B. He measures the angle at C to be 78° . Find the distance from A to B.



11. Two airplanes flying together in formation take off in different directions. One flies due east at 350 mph, and the other flies $N45^\circ E$ at 380 mph. How far apart are the two airplanes 2 hours after they separate, assuming that they fly at the same altitude?

12. Two observers spot a hot air balloon. Person A is due west of person B. The bearing from person A to the balloon is $N57^\circ E$ and the bearing from person B to the balloon is $N53^\circ W$. If the two people are 1.75 miles apart, how high above the ground is the balloon?

